Households Below Average Income (HBAI)

Stat-Xplore Database Guide

The Households Below Average Income (HBAI) Stat-Xplore Database provides information on living standards based on net, weekly household income measures for a financial year.

Information is available for Great Britain from Financial Year 1994 to 1995 (referred to as Financial Year Ending 1995 (FYE 1995)) to FYE 2002 and for United Kingdom from FYE 2003 to FYE 2020 at:

- An individual level
- A family level (benefit unit level)
- A household level.

Data is taken from the Family Resources Survey (FRS), whose focus is capturing information on incomes, as well as a lot of contextual information on household and individual's circumstances. Information on the FRS methodology is available in the FRS Background and Methodology Note on the FRS homepage.

Information is now available at a region, country and UK level and also by ethnicity. While Stat-Xplore displays results for single years, please ensure that HBAI estimates for region, country and ethnicity estimates are calculated using three-year averages - see '15. Worked Example 2: Low Income by Country/Region' below for guidance on how to correctly calculate estimates. Please note that particular care is needed in calculating three-year averages for percentages.

Please email the HBAI team with comments and suggestions.

The contents of this guide are:

d. Selecting Specific Financial Years

e. Removing the Latest Financial Year

f. Creating, Editing and Exporting a Numbers table

g. Converting a Numbers table to Percentages Table

h. Adding a Derivation

i. Creating Income Ranges

13. Further Top Tips
14. Worked Example 1: In-Work Low Income
15. Worked Example 2: Low Income by Country/Region

Please add “Source: HBAI Stat-Xplore” to any analysis shared or published.

1. What is Stat-Xplore?

Stat-Xplore is a free tabulation tool available at gov.uk. Users can access DWP data via databases to create their own analysis.

HBAI estimates and underlying data is also available via:

- HBAI homepage: Main report, along with an extensive suite of tables of HBAI estimates and the HBAI Quality and Methodological Report detailing issues related to HBAI data and includes information on Other Relevant Statistics in Annex 2.
- UK Data Service: End user licence access to the HBAI back-series individual and family (benefit unit level) datasets, resamples datasets and extensive user documentation (note that income variables are rounded to nearest whole £1 and very large households and some variables are removed unless using safe room access).

2. Benefits of Using the HBAI Stat-Xplore Database

- Free and accessible to all with user guidance and virtual tour.
- New user-defined analysis of HBAI data with a user-friendly Application Programming Interface (API) and quick export of tables/graphs to Excel/PDF.
- Data is unrounded so users can produce more accurate analysis (final estimates must be rounded as described below).

3. Constraints of Using the HBAI Stat-Xplore Database

- Confidence intervals around estimates and the Gini co-efficients cannot be produced in Stat-Xplore.

- Analysis based on three-year averages is not currently possible so HBAI estimates based on ethnicity, country and region variables must be calculated manually by the user - see section '15. Worked Example 2: Low Income by Country/Region' below for more support. As a result, the map feature is also not available.
- Decile and quintile median and mean income amounts created in Stat-Xplore differs to the HBAI methodology and calculation of published estimates – see 'Known Issues' below for more information.
- Careful selection of row and column categories are necessary to ensure correct estimates are produced - please see '12. User-defined Analysis' and '13. Further Top Tips' sections below.

4. HBAI Income Definition

HBAI income is presented as net, weekly, equivalised, SPI-adjusted household income Before/After Housing Costs in latest prices or in year prices.

The following table provides specific definitions of the HBAI income measure:

Table 4: HBAI Income Definition

Definition	Explanation
Net	After deductions have been removed for: income tax payments and National Insurance contributions; domestic rates/council tax; contributions to occupational pension schemes; all maintenance payments; student loan repayments; parental contributions to students living away from home.
Weekly	All income is on a weekly-basis (any lump sums are converted to a weekly amount).
Equivalised	An adjustment is made to income to make it comparable across households of different size and composition. A couple with no children is the reference point.
SPI-adjusted	An adjustment is made to sample cases at the top of the income distribution to correct for under-reporting of earnings and volatility in the highest incomes captured in the survey.
Household	One person living alone or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room or sitting room or dining area and can consist of one or more families.
Income	From all sources from all household members (including children's): usual net earnings from employment; profit

	or loss from self-employment (losses are treated as negative income); state support - all benefits and tax credits, including state pension; income from occupational and private pensions; investment income; maintenance payments, if a person receives them directly; income from educational grants and scholarships; the cash value of certain forms of income in kind, including free school meals.
Before/After Housing Costs (BHC/AHC)	Before Housing Costs (BHC) indicates the following housing costs have not been deducted from income, however After Housing Costs (AHC) indicates the following housing costs have been deducted from income: rent (gross of housing benefit); water rates; community water charges and council water charges; mortgage interest payments; structural insurance premiums.
In latest prices	Indicates variants of the Consumer Price Index (CPI) are used to adjust income for inflation to the 'latest' publication year prices to be able to compare how incomes are changing over time in real terms.
In year prices	Income has not been adjusted for inflation so are in 'nominal' terms.

Note: Negative incomes BHC are reset to zero.

Further information can be found in the HBAI Quality and Methodology Information Report HBAI Quality and Methodology Information Report on the HBAI homepage or clicking on the "i" icon for a measure or breakdown in the database.

5. HBAI Estimates Rounding Rules and Disclosure

Please note that estimates derived in this database are unrounded and based on survey data.

Once the user has produced HBAI estimates using unrounded outputs:

- Percentages must be rounded to the nearest whole per cent.
- Numbers must be rounded to the nearest 0.1 million (or 100,000 individuals).
- Amounts must be rounded to the nearest £1 (weekly) and £100 (annual).

These rounding conventions have been set to reflect that HBAI estimates are based on the Family Resources Survey (FRS) and not actual records of individuals in the UK. Where tabulations result in a number of rows or columns

with zero numbers or percentages when rounded, we recommend combining groups.

When comparing year-on-year changes, users are advised to refer to the suite of tables providing confidence intervals around the key HBAI estimates (uncertainty ods tables) on the HBAI homepage. These confidence intervals present how estimates might have varied if a different FRS sample had been created and to help the user to understand where some differences seen in the estimates do represent a true change (and not a result of variation from sampling different people in the UK over time). A new methodology to measure uncertainty around key HBAI estimates was implemented from the FYE 2016 HBAI publication onwards. Further information can be found in the Statistical Notice published in February 2017 and in the 'Using and Interpreting HBAI Results' section of the HBAI Quality and Methodology Information Report on the HBAI homepage.

Information on each of the categories or measures can be found by double-clicking on the 'i' icon next to it.

Users are able to find extensive guidance and produce confidence intervals on their own analysis by accessing the HBAI data and HBAI resample datasets available at the UK Data Service.

6. Breakdowns Available

HBAI Stat-Xplore allows users to create their own analysis of these breakdowns:

Financial Year (FYE 1995 to latest year)

Type of Individual:

- Child
- Working-age adult
- Pensioner

Type of Individual by Age Category:

- Child aged under 16
- Child aged 16 to 19
- Working-age adult aged under 65
- Working-age adult aged 65 or over
- Pensioner aged under 65
- Pensioner aged 65 or over

Age-band of the Individual

Gender of the Individual

Disability of the Individual

	Net FYE 2011 Absolute Median Household Income Measures Before Housing Costs (BHC) and After Housing Costs (AHC): • Median: • In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms). • In year prices (weekly, equivalised, SPI-adjusted in nominal terms) Note: Options to calculate means and ranges are included as standard Stat-Xplore measures but the median measure is recommended as it is the same median amount for all individuals in a certain year. The purpose of this measure is to present a time-series of how net FYE 2011 absolute median household income BHC and AHC has changed over time in year prices, whilst the value for latest year will be fixed across all individuals for all years as it is the net FYE 2011 absolute median income in the latest survey year prices. **Net Household Income Measures Before Housing Costs (BHC) and After Housing Costs (AHC):** • **Mean:** o In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms). o In year prices (weekly, equivalised, SPI-adjusted in nominal terms) • **Median:** o In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms). o In year prices (weekly, equivalised, SPI-adjusted in nominal terms) • **Ranges:** o In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms). o In year prices (weekly, equivalised, SPI-adjusted in nominal terms) **Net Household Housing Costs Measures:** • **Mean:** o In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms). o In year prices (weekly, equivalised, SPI-adjusted in nominal terms) • **Median:** o In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms). o In year prices (weekly, equivalised, SPI-adjusted in nominal terms) • **Ranges:** o In latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms).

	○ In year prices (weekly, equivalised, SPI-adjusted in nominal terms) **Net Household Income Thresholds - Before Housing Costs (BHC) and After Housing Costs (AHC):** • Below/at or above 50% of Median Net Household Income in Latest Prices • Below/at or above 60% of Median Net Household Income in Latest Prices • Below/at or above 70% of Median Net Household Income in Latest Prices • Below/at or above 50% of FYE 2011 Absolute Median Net Household Income in Latest Prices • Below/at or above 60% of FYE 2011 Absolute Median Net Household Income in Latest Prices • Below/at or above 70% of FYE 2011 Absolute Median Net Household Income in Latest Prices **Net Household Income Groups of the Household:** • Quintile of Net Household Income - Before Housing Costs (BHC) and After Housing Costs (AHC) • Decile of Net Household Income - Before Housing Costs (BHC) and After Housing Costs (AHC) **Combined Low Income and Child Material Deprivation:** • Combined Low Income and Child Material Deprivation - below 70% of Median Net Household Income Before Housing Costs (BHC) and in Child Material Deprivation • Combined Severe Low Income and Child Material Deprivation - below 50% of Median Net Household Income Before Housing Costs (BHC) and in Child Material Deprivation **Pensioners aged 65 or over in Pensioner Material Deprivation** **Benefits received by the Family:** • Attendance Allowance (AA) • Carer's Allowance (CA) • Child Tax Credits (CTC) • Disability Benefits: Disability Living Allowance Self-Care, Disability Living Allowance Mobility, War Disablement Pension/Armed Forces Compensation Scheme, Attendance Allowance, Industrial Injuries Disablement Benefit, Personal Independence Payment - Daily Living, Personal Independence Payment - Mobility • Disability Living Allowance: self-care and mobility (DLA) • Employment Support Allowance (ESA) • Housing Benefit (HB) • Incapacity Benefit (IB) • Income Support (IS) • Jobseeker's Allowance (JSA) • Pension Credit (PC) • Personal Independence Payment: self-care and mobility (PIP)

	• Universal Credit (UC) • Universal Credit or Equivalent: Income-based Jobseeker's Allowance, Income-related Employment Support Allowance, Income Support, Housing Benefit, Child Tax Credits, Working Tax Credits. • Working Tax Credits (WTC) • For Children: DLA, PIP, JSA, ESA, IB, CTC, WTC, IS, HB, UC, UC or Equivalent • For Working-age adults: DLA, PIP, JSA, ESA, CA, IB, CTC, WTC, IS, HB, UC, UC or Equivalent • For Pensioners: DLA, PIP, AA, PC, HB • For All Individuals: DLA, PIP, JSA, ESA, AA, CA, IB, CTC, WTC, IS, PC, HB, UC, UC or Equivalent **Universal Credit Applicable Family** **Occupational and/or Personal Pensions received by the Family:** • By Number of Adults in the Family • By Number of Adults in the Family and Marital Status • Overall **Country/Region of the Household in the United Kingdom:** • Country • Region **Ethnicity of the Head of Household:** • Harmonised Ethnic Group (high level) • Harmonised Ethnic Group • Asian Group **Disability:** • Within the Family • Mix Within the Family • Disabled Children in the Family **Economic Status:** • Of Adults in the Family • Of the Child's Family and Family Type • Of the Household **Other characteristics:** • Family Type • Marital Status and Types of Couple of Adults in the Family • Savings and Investments in the Family • Number of Children in the Family • Age of Youngest Child in the Family

- Tenure Type of the Household

Click on the ‘i’ icon for descriptions and any data issues for a breakdown.

Variations of these breakdowns are also possible using the ‘Add Derivation’ feature - see section 12 below.

7. Current Database Exclusions (available in published tables)

The following breakdowns have not been included in this version:

- Educational Attainment
- Direct Payment Accounts
- Bills in Arrears
- Material Deprivation Questions
- Disability Time-Series: Illustrative measures of living standards, excluding Disability Living Allowance, Personal Independence Payment and Attendance Allowance from income.

Gini co-efficients for income inequality analysis are also not possible in Stat-Xplore.

8. Known Issues and Changes to HBAI Data Back-Series Changes

The following known issues exist for HBAI Stat-Xplore:

Three-Year Average Estimates for Region, Country and Ethnicity:

Please note that Stat-Xplore cannot calculate three-year average estimates. However final HBAI estimates for region, country and ethnicity must be presented as three-year averages. Please refer to the ‘15. Worked Example 2: Low Income by Country/Region’ below on how to calculate three-year averages from the Stat-Xplore table single year outputs, the information page for the breakdown or look at the footnote for any number tables.

Median incomes for Decile and Quintile groups:

In Stat-Xplore, these estimates are calculated from the incomes of individuals in the specific group. In published HBAI tables, median incomes for deciles and quintiles are taken from percentile income values for the whole population. As the calculations are based on very slightly different methods, there can sometimes be marginal differences seen for some income values when comparing Stat-Xplore outputs against published tables.

HBAI Data Back-Series Changes:

- For the FYE 2020 statistics a minor methodological revision has been made to capture all income from child maintenance. This results in more

income from child maintenance being included, in turn slightly increasing some household incomes and so tending to slightly reduce low income rates for families with children. The full back series (back to FYE 1995) has been revised so that comparisons over time are on a consistent basis across the full time series. This also means that figures for FYE 1995 to FYE 2019 in this year's publication (FYE 2020 statistics) may be slightly different to the equivalent figures in previous publications. Please refer to HBAI Quality and Methodology Information Report on the HBAI homepage for more information.

- The level of savings and investments, for both families (benefit units) and households, is estimated using a slightly different methodology in FYE 2020, than in previous years. This change has caused a large shift in the division of families (benefit units) and households between the two categories of (i) those with no savings at all to (ii) those with less than £1500 in savings. The new method more accurately estimates savings in current accounts and basic bank accounts resulting in estimates which are closer to those of other major surveys. Further information can be found in the FRS Background and Methodology Note on the FRS homepage.
- As advised in a Statistical Notice published in May 2016, HBAI has made a methodological change to use variants of CPI when adjusting for inflation from the FYE 2015 publication onwards. Prior to the FYE 2015 HBAI publication, variants of RPI were used to adjust for inflation. Therefore, all tables created here will use CPI-adjusted inflation and so will not be consistent with published tables prior to FYE 2015.
- The tables use grossing factors based on 2011 Census data, so caution should be exercised when making comparisons with published reports and tables prior to FYE 2013.

9. Important Footnotes

A series of footnotes are provided to guide the user when producing estimates:

Table 9: Important Footnotes for HBAI Stat-Xplore

Symbol	Description
I	Figures are for Great Britain up to FYE 2002, and for the United Kingdom from FYE 2003. The reference period is single financial years. Source: Family Resources Survey (FRS), Department for Work and Pensions.
II	Figures derived are unrounded. Before use of these figures, users must use the following rounding conventions: a) Percentages must be rounded to the nearest whole per cent. b) Numbers must be rounded to the nearest 0.1 million (or 100,000 individuals). c) Amounts must be rounded to the nearest £1 (weekly) and nearest £100 (annual). These rounding conventions have been set to reflect that HBAI estimates are

		based on survey data and not actual records of individuals in the UK.
	III	Small changes in estimates from year to year, particularly at the bottom of the income distribution, may not be significant in view of data uncertainties. Please refer to the Important User Guidance on the Home page of the HBAI database
	IV	The tables use grossing factors based on 2011 Census data, so caution should be exercised when making comparisons with published reports and tables prior to FYE 2013.
	V	”..” indicates data not being available in that year.
	i	Click to view information about the category and any data issues.
	cpi	All tables created here apply CPI-adjusted inflation and so will not be consistent with published reports and tables prior to FYE 2015.
	dq	In Stat-Xplore, median incomes for decile and quintile groups are calculated from the incomes of individuals in the specific group. In published HBAI tables, median incomes for deciles and quintiles are taken from percentile income values for the whole population. As the calculations are based on very slightly different methods, there can sometimes be marginal differences seen for some income values when comparing Stat-Xplore outputs against published tables.
	3ya	Estimates based on country, region or ethnicity must be calculated as three year averages. Output at least three consecutive financial years: for numbers - these can be outputted for all years in one table, for percentages - please output one year at a time in a table (as outputting several years may result in incorrect percentage groupings). Please see the information page or calculate a three-year average as follows: (yr1 estimate + yr2 estimate + yr3 estimate)/3.
	r	For the FYE 2020 statistics a minor methodological revision has been made to capture all income from child maintenance. This results in more income from child maintenance being included, in turn slightly increasing some household incomes and so tending to slightly reduce low income

	rates for families with children. The full back series (back to FYE 1995) has been revised so that comparisons over time are on a consistent basis across the full time series. This also means that figures for FYE 1995 to FYE 2018 in this year's publication (FYE 2020 statistics) may be slightly different to the equivalent figures in previous publications. Please refer to HBAI Quality & Methodology Information Report for more information.
s	The level of savings and investments, for both families (benefit units) and households, is estimated using a slightly different methodology in FYE 2020, than in previous years. This change has caused a large shift in the division of families (benefit units) and households between the two categories of (i) those with no savings at all to (ii) those with less than £1500 in savings. The new method more accurately estimates savings in current accounts and basic bank accounts resulting in estimates which are closer to those of other major surveys. Further information can be found in the FRS Background and Methodology note.
eth	Please note the 'Mixed or Multiple Ethnic Groups' and 'Any other Asian background' categories are only available from FYE 2003 onwards.

Note that footnotes are not displayed on percentages tables in HBAI Stat-Xplore.

10. How the Database Works

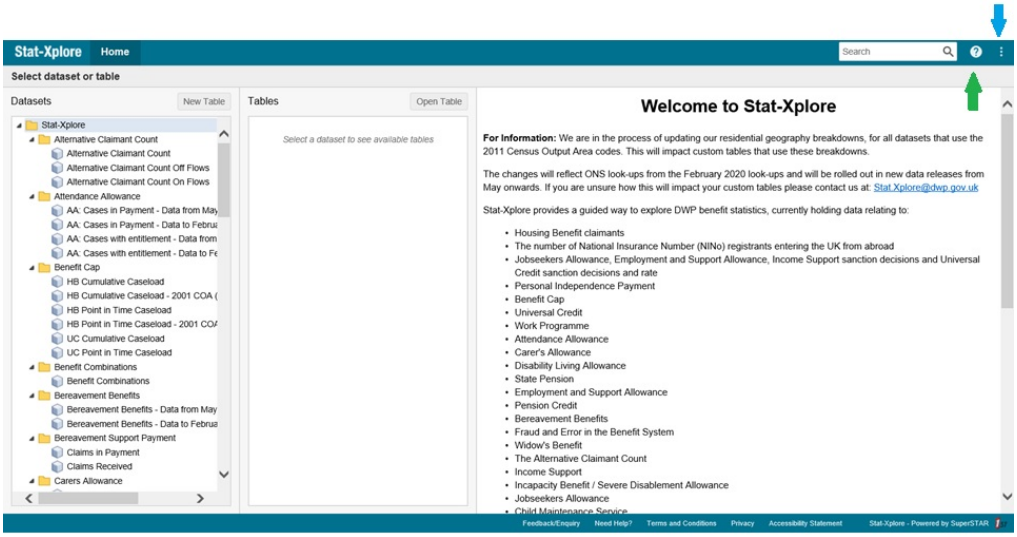
Log in

Please take the tour to learn about how to use a Stat-Xplore database.

Click on the three dots on the top right-hand corner of the page (see blue arrow in the image below) and select to find the 'Tour' again if you have visited the website before.

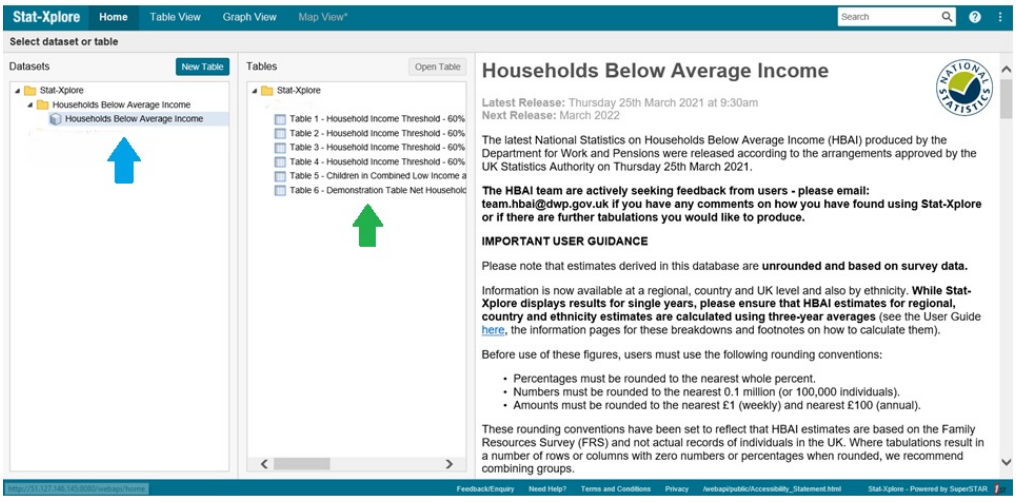
Further really useful guidance can be found by selecting the '?' icon (see green arrow in the image below).

Figure 1 - Stat-Xplore Database



Scroll down to the Households Below Average Income Database and please take time to read the front page for important information on rounding final figures and known issues.

Figure 2 - HBAI Stat-Xplore Database



Click on the database icon (see blue arrow in the image above) or a ready-made table (see green arrow in the image above).

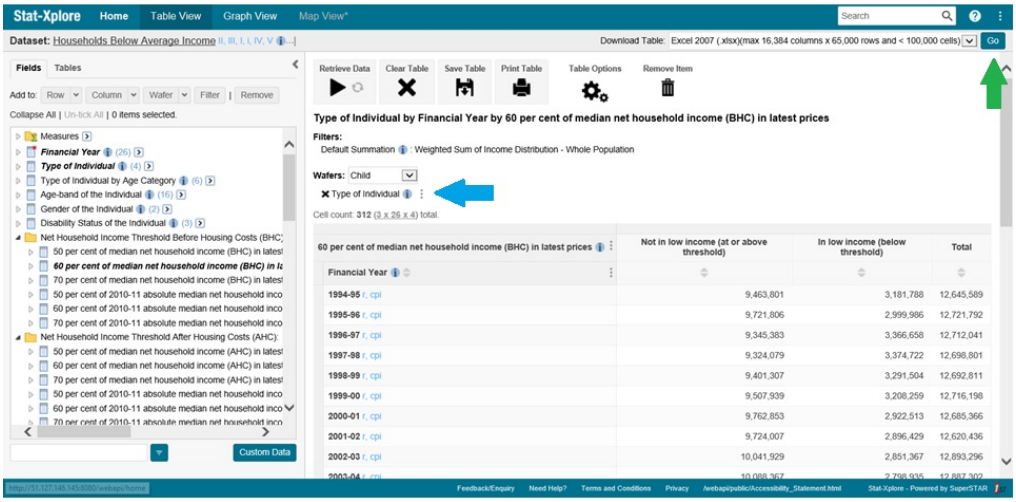
11. Ready-Made Tables

Six ready-made tables are available for users to quickly output main headline HBAI estimates or use as a starting point for further analysis:

- Table 1: Net Household Income Threshold: 60% of median net household income BHC by Type of Individual, All Years
- Table 2: Net Household Income Threshold: 60% of median net household income AHC by Type of Individual, All Years
- Table 3: Net Household Income Threshold: 60% of FYE 2011 absolute median net household income BHC by Type of Individual, All Years
- Table 4: Net Household Income Threshold: 60% of FYE 2011 absolute median net household income AHC by Type of Individual, All Years
- Table 5: Children in Combined Low Income and Child Material Deprivation, All Years
- Table 6: Demonstration Table Net Household Income Threshold: 60% of median net household income BHC by Economic Status of Adults in the Family

Here is the 'Ready-Made Table 1: Net Household Income Threshold: 60% of median net household income BHC by Type of Individual, All Years':

Figure 3 - Ready-Made Table 1



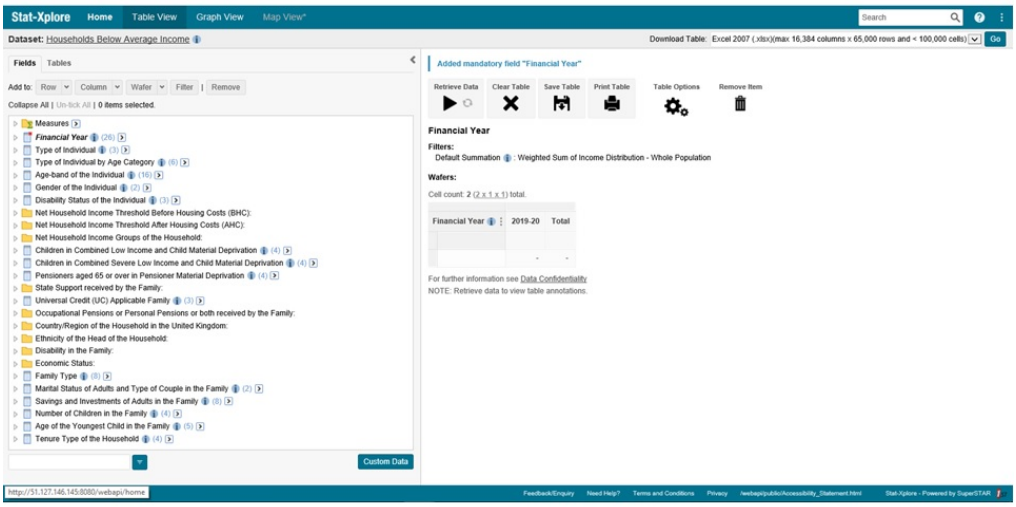
The user can select which 'Type of Individual' to view in the table by selecting from the 'wafer' list (see blue arrow in image above).

Click on the 'Go' button in the top right-hand corner of the screen (see green arrow in the image above) to 'Download Table'. An excel workbook will be created and as a wafer was selected, a table will be created for each group in the wafer - in this example, each 'Type of Individual' is outputted.

12. User-Defined Analysis

When the user double-clicks on the database icon, the following page is displayed:

Figure 4 - Main HBAI Stat-Xplore Database Screen

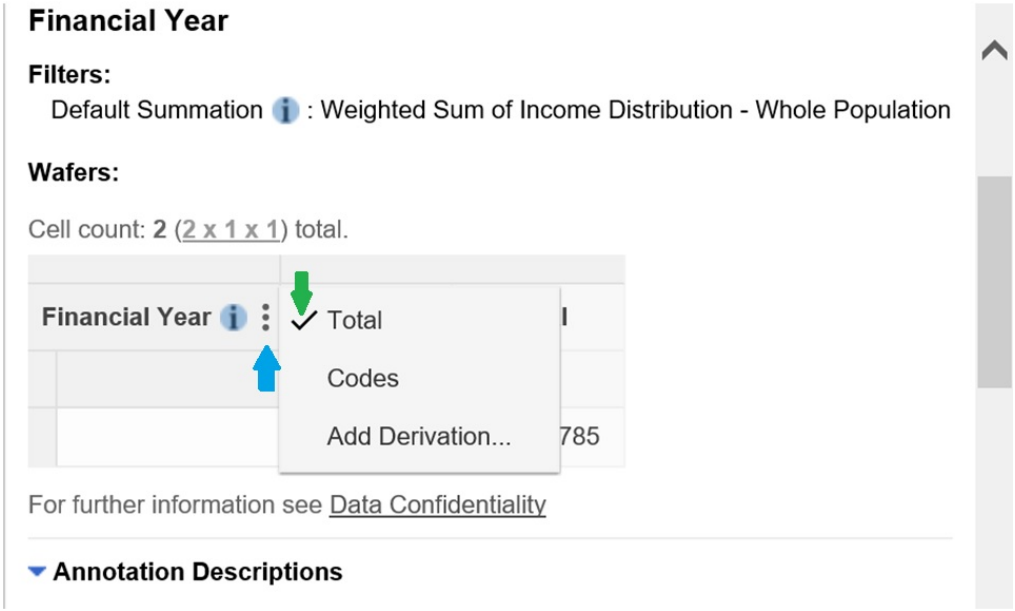


a. Removing Financial Year total

As with other breakdowns, ‘Financial Year’ has a total column or row by default.

However, please remove the total before outputting tables by clicking on the three dots next to the ‘Financial Year’ label in the table (see the blue arrow in the image below) and unticking the ‘Total’ (see the green arrow in the image below).

Figure 5 - Removing Financial Year Total



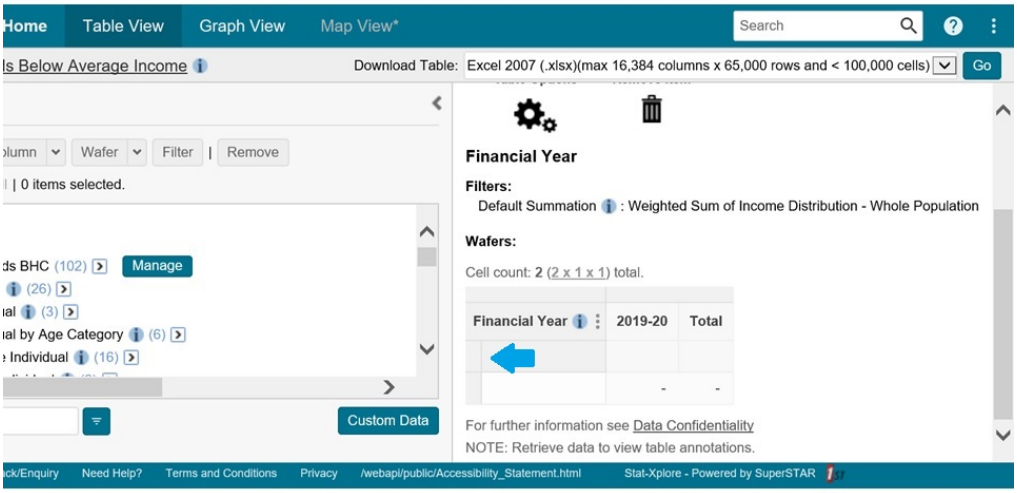
b. Financial Year as a Row

'Financial Year' FYE 2020 is a mandatory field and it will always be displayed as a column by default.

To have 'Financial Year' as a row:

- Drag 'Financial Year' FYE 2020 in the table on the right over the 'third square down' (see blue arrow in image below).

Figure 6 - Financial Year as a Row

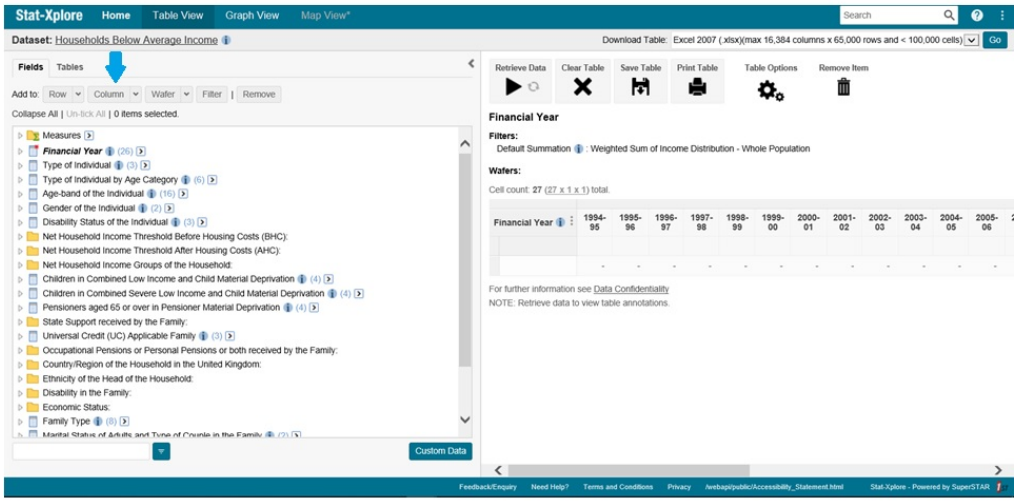


c. Creating a Time-Series

To add a time-series as a column:

- Drag the ‘Financial Year’ breakdown on the left hand-side and select ‘Column’ from the mini selection table that appears.
- Alternatively, click on the ‘Financial Year’ breakdown and click on ‘Column’ at the top (see blue arrow in image below).

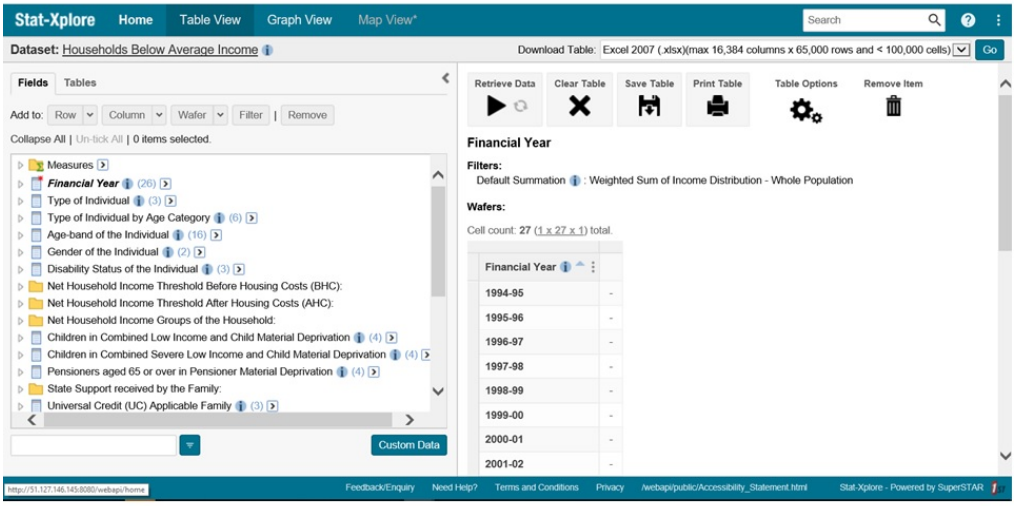
Figure 7 - Time-series as a Column



To add a time-series as a row:

- Drag ‘Financial Year’ FYE 2020 in the table on the right over the ‘third square down’ as directed in ‘a. Financial Year as a Row’ above.
- Drag the ‘Financial Year’ breakdown and select ‘Row’ from the mini selection table that appears.
- Alternatively, click on the ‘Financial Year’ breakdown and click on ‘Row’ at the top (see blue arrow in image below).

Figure 8 - Time-series as a Row

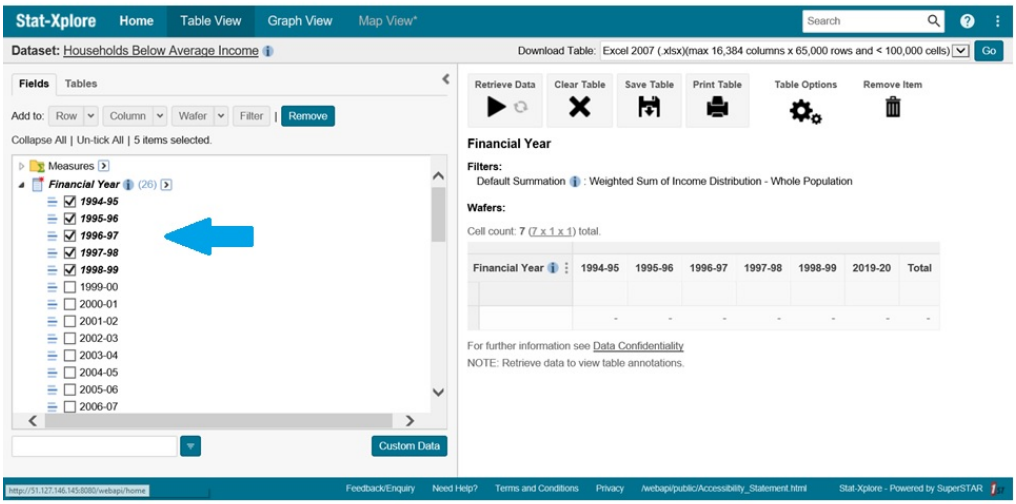


d. Selecting Specific Financial Years

To select specific financial years:

- Double click on the ‘Financial Year’ breakdown on the left hand-side.
- Tick the required years.
- Select ‘Column’ or ‘Row’ at the top (depending on whether the ‘Financial Year’ is a row or column).

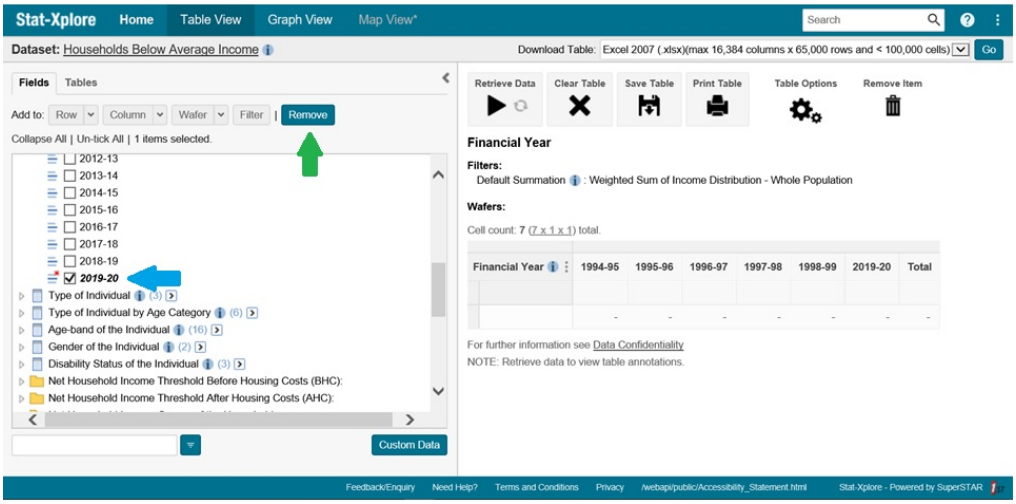
Figure 9 - Selecting Specific Financial Years



e. Removing the Latest Financial Year

To remove the latest year, click on the year and select ‘remove’ at the top.

Figure 10 - Removing the Latest Financial Year



f. Creating, Editing and Exporting a Numbers Table

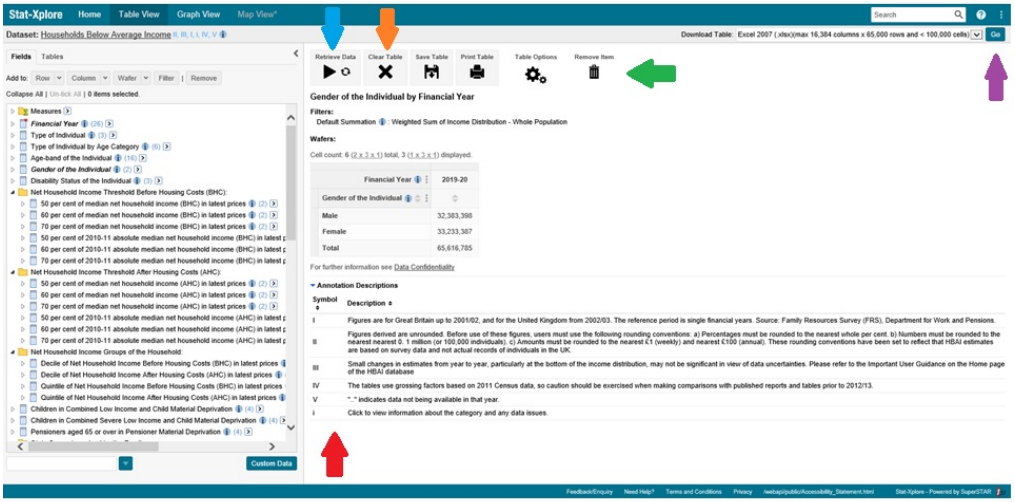
Once the ‘Financial Year(s)’ row or column selection is complete, the user can select breakdowns as columns or rows and click on ‘Retrieve Data’ to get the outputs (see the blue arrow in the image below).

Numbers are presented by default in the HBAI Stat-Xplore Database.

Note that:

- Any relevant footnotes to the breakdowns selected will also be displayed (see the red arrow in the image below).
- To remove a breakdown, drag it to the ‘Remove Item’ icon above the table (see the green arrow in the image below).
- To clear the table, click on the ‘Clear Table’ icon above the table (see the orange arrow in the image below).
- To output to Excel, click on the ‘Go’ icon at the very top right corner of the screen (see the purple arrow in the image below).

Figure 11 - Creating, Editing and Exporting a Numbers Table



Please add “Source: HBAI Stat-Xplore” to any analysis shared or published.

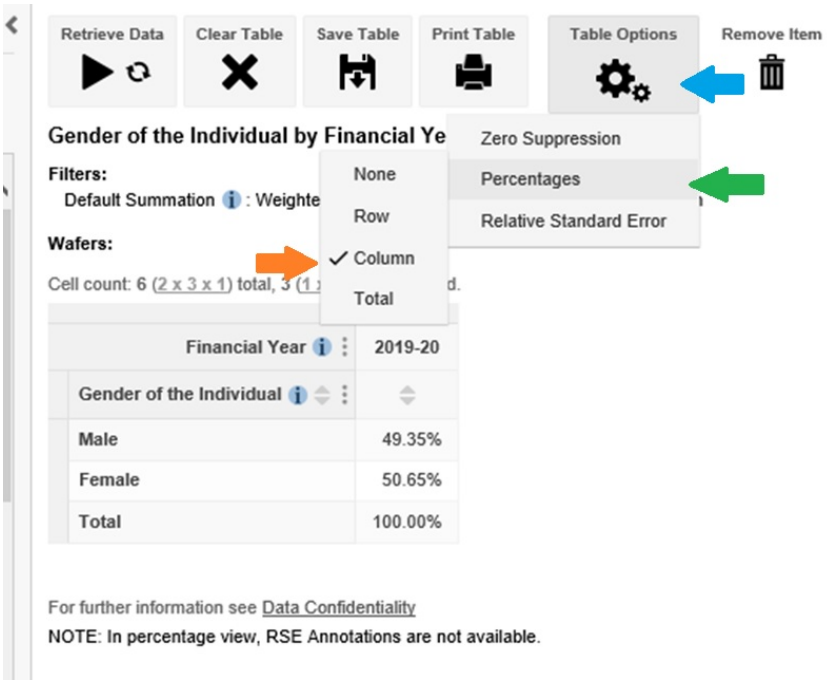
g. Converting a Numbers Table to Percentages Table

To convert a numbers table to a percentages table:

- Select the ‘Table Options’ icon above the table (see the blue arrow in the image below).
- Select the ‘Percentages’ option (see the green arrow in the image below).

- Select the appropriate ‘Column’ or ‘Row’ to convert to percentages (see the orange arrow in the image below).

Figure 12 - Converting a Numbers Table to Percentages Table



Note that:

- Footnotes are not displayed for percentages tables.
- To convert back to numbers, repeat the instructions above and select ‘None’.

Please add “Source: HBAI Stat-Xplore” to any analysis shared or published.

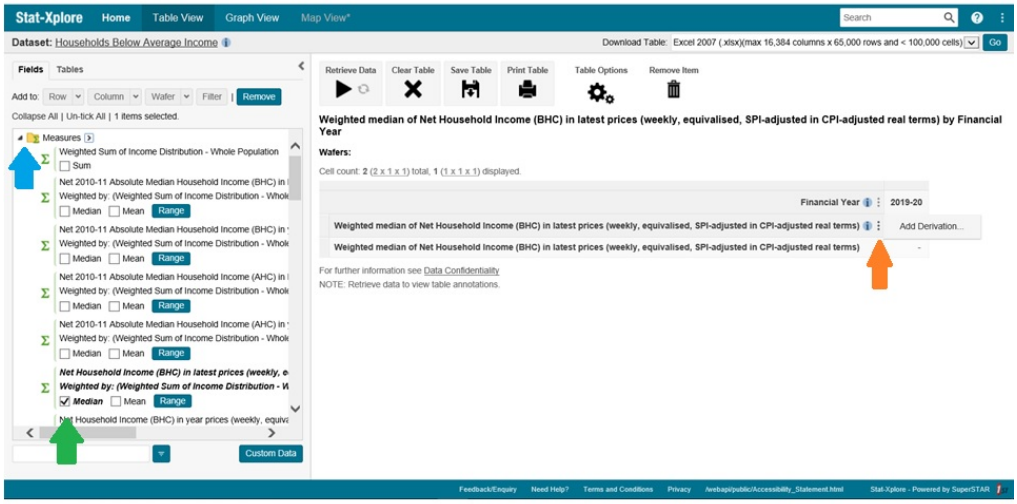
h. Adding a Derivation

The ‘Add Derivation’ feature allows the user to create a variation of a category.

For example, to create a table presenting ‘60% of median net household income BHC in latest prices’:

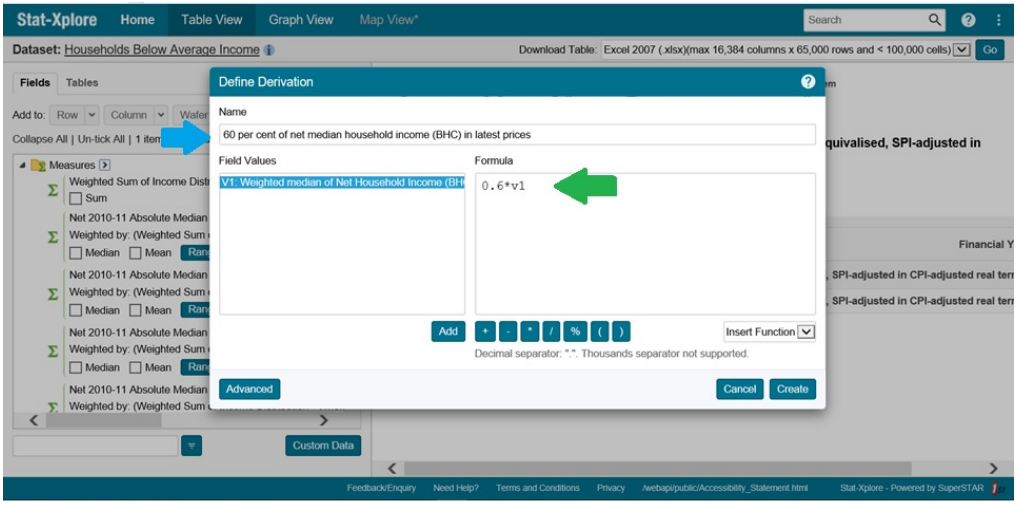
- Click on ‘Measures’ on the left-hand side of the database (see the blue arrow in the image below).
- Select the ‘Median’ option from ‘Net Household Income (BHC) in latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms)’ and drag as a row (see the green arrow in the image below).
- Click on the three dots next to the label to get the ‘Add Derivation’ option (see the orange arrow in the image below).

Figure 13 - Adding a Derivation



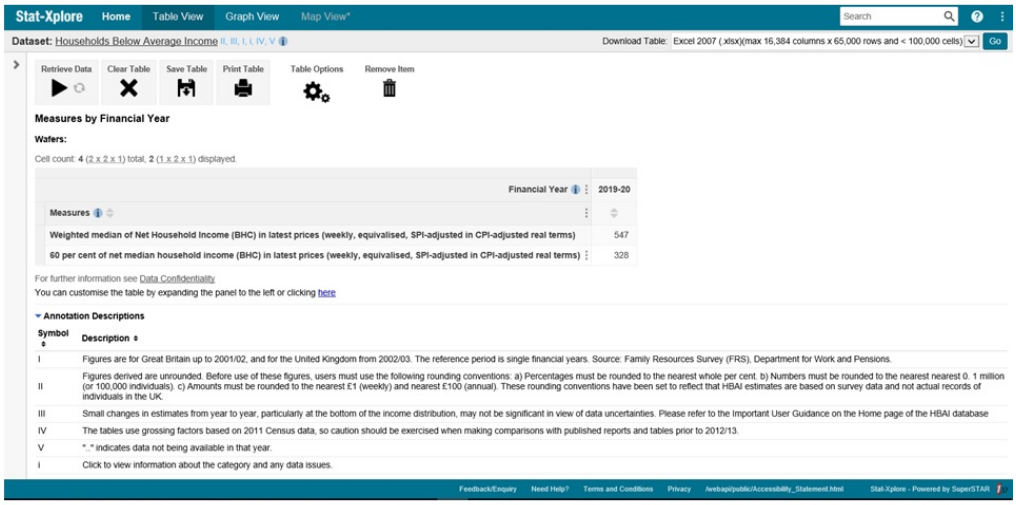
- Click on ‘Add Derivation’ and create a name for the new derivation, such as ‘60% of median income BHC in latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms)’.
- Add the formula: 0.6*v1 – where v1 is the original median measure – and click ‘Create’.

Figure 14 - Defining a New Derivation



- Click on ‘Retrieve Data’ and the table provides ‘median income’ and the ‘60% threshold of median income’ measures in FYE 2020:

Figure 15 - New Derivation Table



This table can be produced for all years and for other thresholds too.

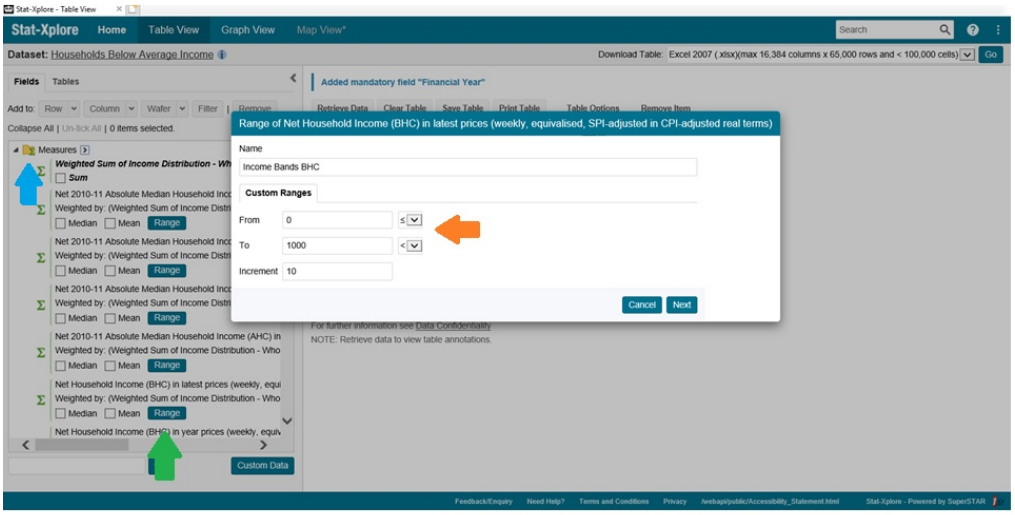
i. Creating Income Bands

The user can create income bands using the ‘Range’ feature for any of the measures.

For example, to create a table presenting ‘Income Bands for Net Household Income Before Housing Costs in latest prices’:

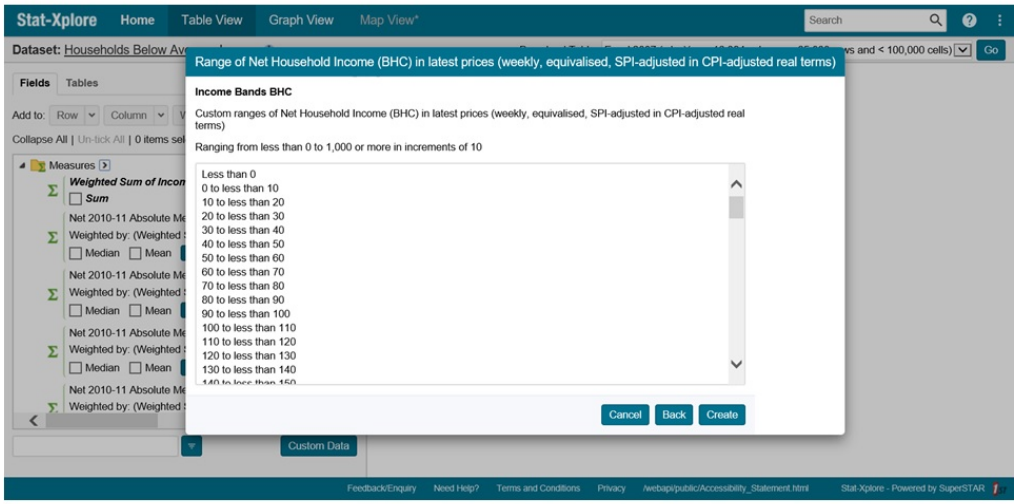
- Click on ‘Measures’ on the left-hand side of the database (see the blue arrow in the image below).
- Select the ‘Range’ option from the ‘Net Household Income (BHC) in latest prices (weekly, equivalised, SPI-adjusted in CPI-adjusted real terms)’ measure (see the green arrow in the image below).
- In the pop-up box, create a name and choose the minimum and maximum income amounts and the increment - for this example, the name is ‘Income Bands BHC’ (as there is a length limit) and the range selected is from £0 to £1000 per week, in increments of £10 per week (see the orange arrow in the image below).

Figure 16 - Creating a Range



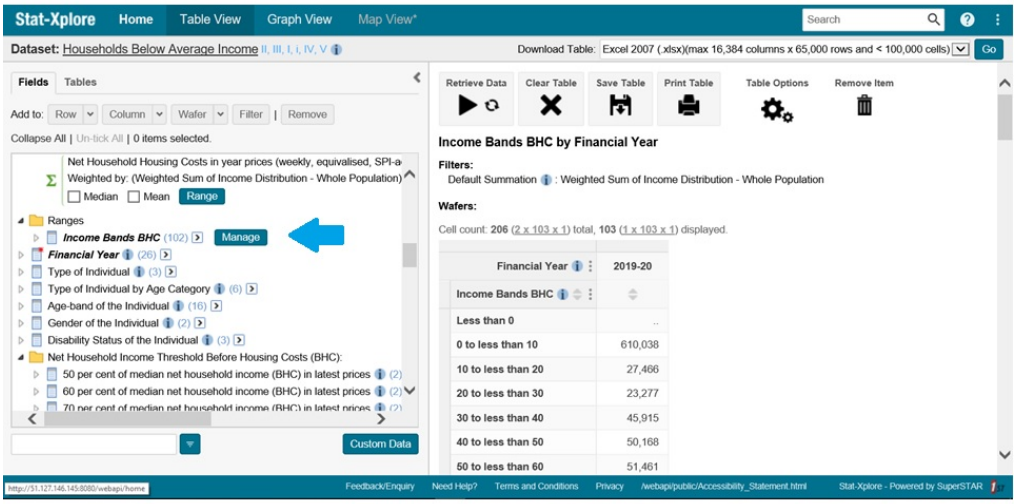
- Click on 'Next' and the range requested appears:

Figure 17 - The New Range



- Click 'Create' and the measure will appear on the left-hand side with the other breakdowns under the category 'Ranges' (see the blue arrow in the image below).
- Select the new range as a row and retrieve data.

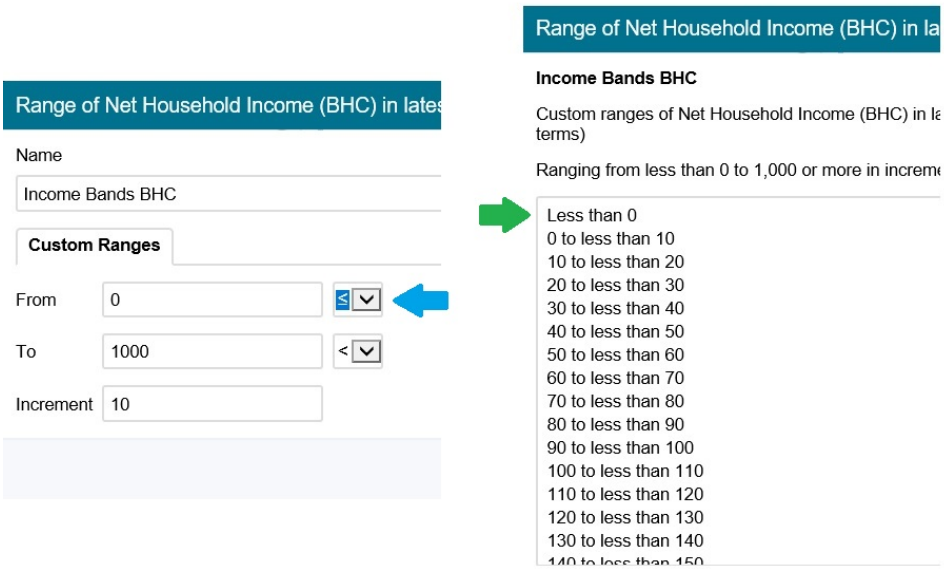
Figure 18 - Table with the New Range



Please take care in defining the ranges:

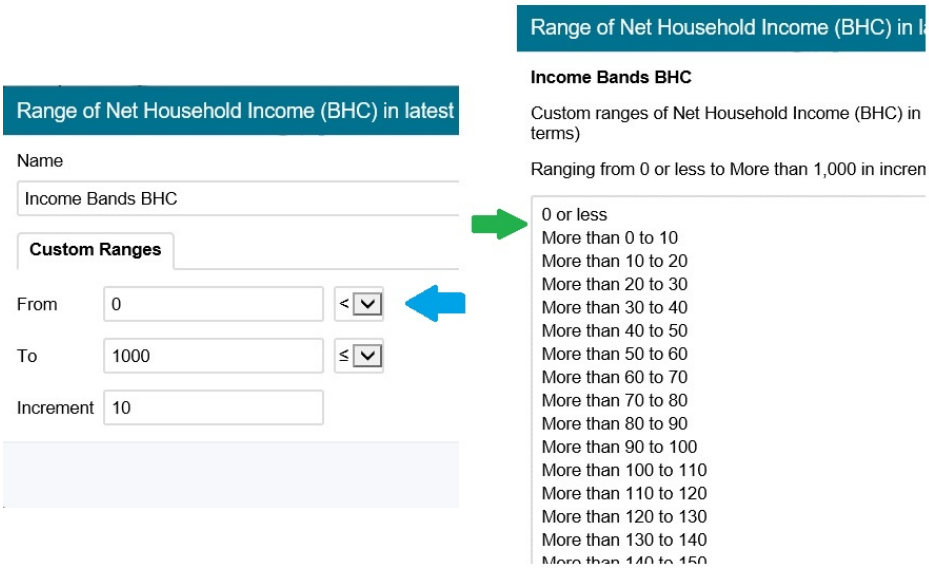
- Choosing the starting range '<=' (see the blue arrow in the image below) gives the ranges: Less than 0 (Less than £0), 0 to less than 10 (£0 to £9), 10 to less than 20 (£10 to £19) etc. (see the green arrow in the image below):

Figure 19 - Range Type 1



- Choosing the starting range '<' (see the blue arrow in the image below) gives the ranges: 0 or less (£0 or less), More than 0 to 10 (£1 to £10), More than 10 to 20 (£11 to £20) etc. (see the green arrow in the image below):

Figure 20 - Range Type 2

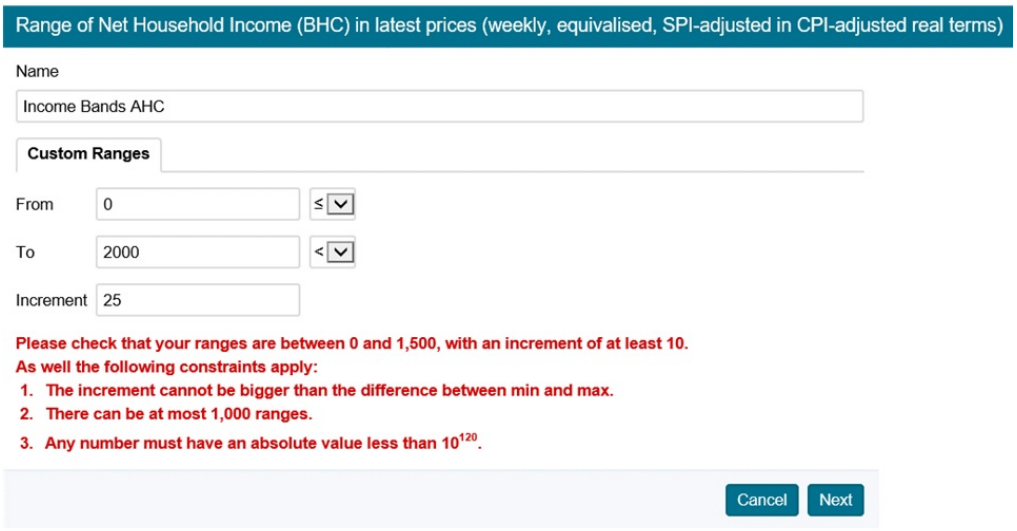


Limitations are placed for deriving ranges and a red warning will appear if the following criteria are not met:

Table 12H: Limitations for Deriving Income Ranges

	Before Housing Costs	After Housing Costs
Minimum Income	£0	-£100
Maximum Income	£1,500	£1,500
Increment	At least £10	At least £10
Maximum number of ranges	1000	1000

Figure 21 - Range Warnings



13. Further Top Tips

Below is a series of further top tips when using Stat-Xplore:

Stat-Xplore vs. Published Tables

- Check whether the breakdown you require is currently available in the Published Tables already.
- Take care when trying to replicate published tables and use them to quality assure the Stat-Xplore outputs before creating further analysis.
- Not all published table breakdowns are available in Stat-Xplore – see '7. Current Exclusions (available in published tables)' above.

Building a Table

The Ready-Made Tables allow instant export and analysis for:

- Table 1: Net Household Income Threshold: 60% of median net household income BHC by Type of Individual, All Years
- Table 2: Net Household Income Threshold: 60% of median net household income AHC by Type of Individual, All Years
- Table 3: Net Household Income Threshold: 60% of FYE 2011 absolute median net household income BHC by Type of Individual, All Years
- Table 4: Net Household Income Threshold: 60% of FYE 2011 absolute median net household income AHC by Type of Individual, All Years
- Table 5: Children in Combined Low Income and Child Material Deprivation, All Years

- Table 6: Demonstration Table Net Household Income Threshold: 60% of median net household income BHC by Economic Status of Adults in the Family

and can provide a good foundation for further analysis of these headline HBAI estimates.

When producing new tables:

- It is generally recommended to have 'Financial Year' as a column so that time-series outputs go across the table.
- Build a table in the following order: 1. Filter, 2. Wafer, 3. Column, 4. Row.
- Select 'Types of Individual' as a 'wafer' to produce the same cross-tabulations for each type in one output.

Composition Tables

- Assuming the 'Financial Year' is a column and a group is in the row, then the 'composition' of a group can be calculated by selecting 'Column' when converting numbers to percentages - remember Composition=Column
- Filter down further by the required 'Type of Individual' or characteristic.

Risk Tables

- Assuming the 'Financial Year' is a column and a low income group breakdown is in the row, then the 'risk' of a group being in low income or not can be calculated by selecting 'Row' when converting numbers to percentages - remember Risk=Row
- Filter down further by the required 'Type of Individual' or characteristic.

The table below provides direction on what to select to create 'Composition' and 'Risk' tables:

Table 13: Directions for calculating Composition and Risk Tables for Low Income Estimates

Analysis	Filter	Wafer	Row	Column	Numbers to Percentages
Composition for 60% of median income BHC by Type of Individual in latest prices by age-band, FYE 2020	60% of median income (BHC)		Age-band of the Individual	Financial Year FYE 2020	Table Options then Percentages then Column
Risk for 60% of median income		Type of Individual	60% of median income (BHC) in	Financial Year (select all years)	Table Options then Percentages then Row

BHC by Type of Individual, All Years			latest prices		

14. Worked Example 1: In-Work Low Income

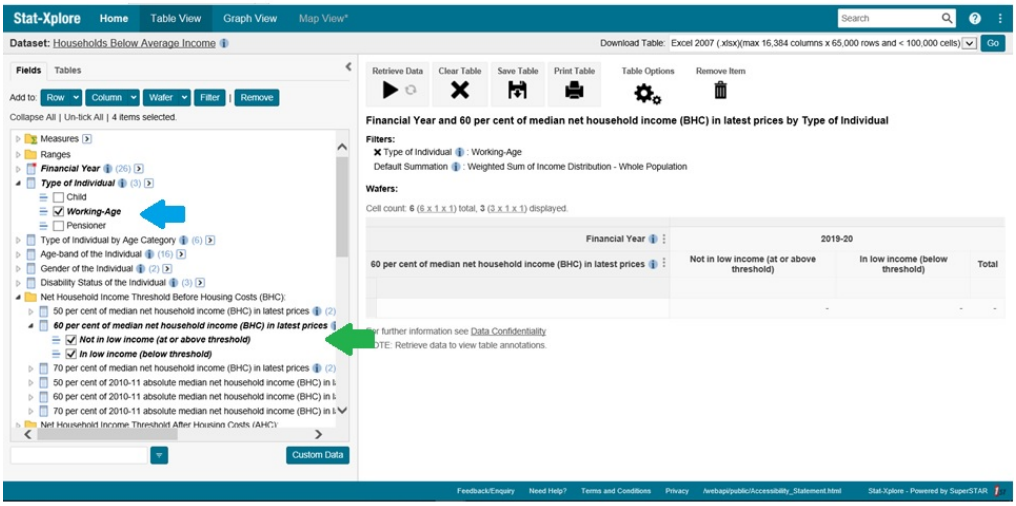
14.1. Select ‘Working-Age Adults’:

- Click on ‘Type of Individual’.
- Tick ‘Working-Age’.
- Select ‘Filter’.

14.2. Select the ‘60% of median income BHC threshold’:

- Select ‘Net Household Income Threshold – Before Housing Costs’ (see the blue arrow in the image below).
- Select ‘60 per cent of median net household income (BHC) in latest prices’ (see the blue arrow in the image below).
- Drag and select ‘Column’ or tick both ‘Below threshold’ and ‘At or above threshold’ and click on ‘Column’
- Click on the three dots next to ‘Financial Year’ and untick total.

Figure 22 - Worked Example 1 Set-Up

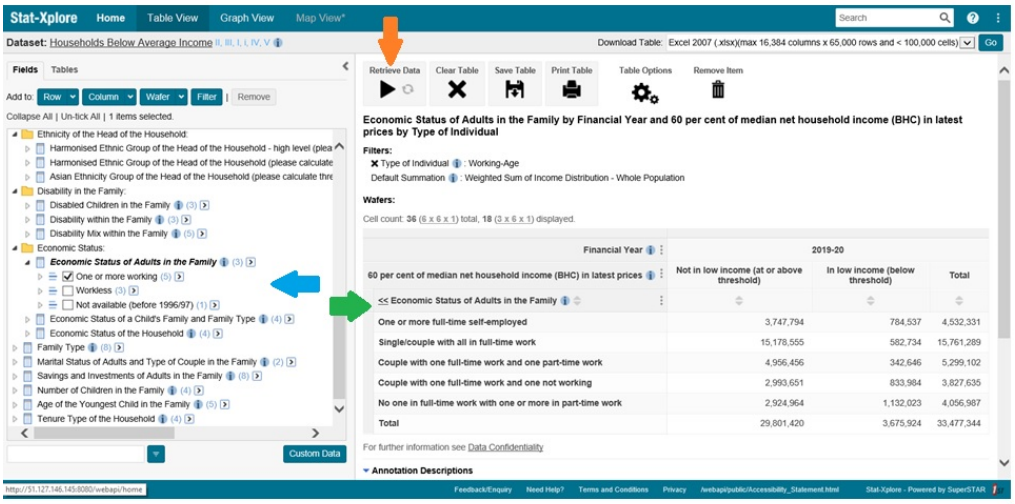


14.3. Select ‘Adults in Work’:

- Select ‘Economic Status of Adults in the Family’.
- Select ‘One or more working’, tick each of the categories and click on ‘Row’ (see the blue arrow in the image below).
- Click on the category hyperlink to see all groups (see the green arrow in the image below).

- Click on ‘Retrieve Data’ (see the orange arrow in the image below).

Figure 23 - Worked Example 1 Further Selection



14.4. Click on the ‘i’ icon next to the breakdown:

- This provides an information page for the breakdown, with details of the categories and any data quality issues.
- It opens in a separate tab, so click back onto the Database tab to continue analysis.

Figure 24 - Worked Example 1 Information Page

Department for Work & Pensions | Stat-Xplore

Field: Economic Status of Adults in the Family

Description

The economic status of adults in the individual's family, as reported by FRS respondents, where:

- an adult is defined as an individual aged over 16 and not a dependant child.
- a family is defined as a single adult or a married or cohabiting couple and any dependent children (see Family Type for more information).

Classification

Applicable to: All Individuals

- One or more adults working
  - One or more full-time self-employed: Individuals in families where at least one adult usually works as self-employed in their main job where the respondent regards themselves as working full-time. Those respondents not working in the last seven days but doing unpaid work in their own business are considered as full-time self-employed.
  - Single/couple all in full-time work: Individuals in families where all adults regard themselves as working full-time. Those respondents not working in the last seven days doing unpaid work in a business that a relative owns are considered as in full-time work, as are those in training.
  - Couple, one in full-time work, one in part-time work: Individuals in families headed by a couple where one partner considers themselves to be working full-time and the other partner considers themselves to be working part-time. Those respondents not working in the last seven days but doing an odd job are considered as working part-time.
  - Couple, one in full-time work, one not working: Individuals in families headed by a couple, where one partner considers themselves to be working full-time and the other partner does not work.
  - No-one in full-time work, one or more in part-time work: Individuals in families where at least one adult works, but considers themselves to be working part-time.
- No one Working
  - Workless, one or more aged 60 or over.
  - Workless, one or more unemployed.
  - Workless, other inactive.
- Not available (before 1996/97)

Number of categories: 9

Quality Statement

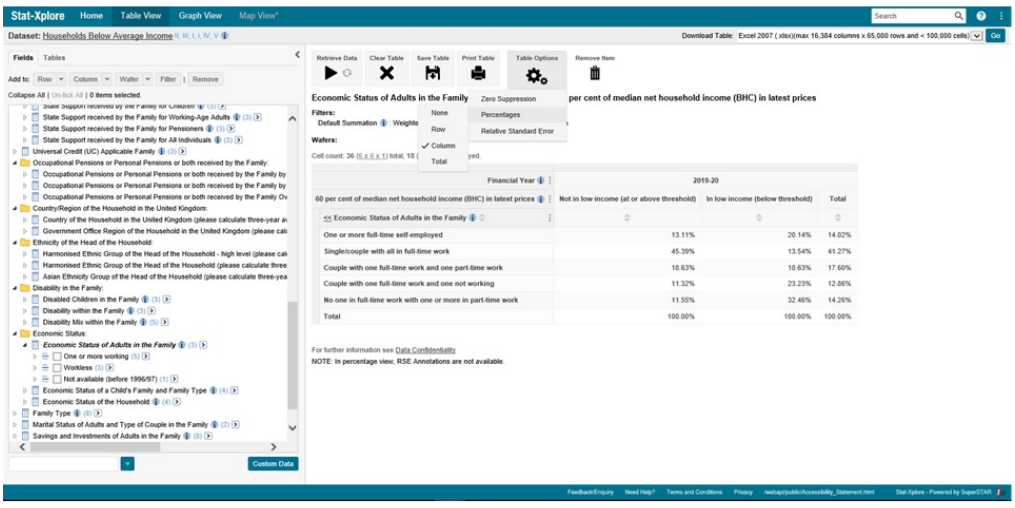
Further information can be found in the HBAI Quality and Methodology Report here.

Back to top

14.5. For composition of those in-work by low income threshold:

- Select ‘Table Options’.
- Select ‘Percentages’.
- Tick ‘Column’.

Figure 25 - Worked Example 1 Composition Table



Stat-Xplore | Home | Table View | Graph View | Map View*

Dataset: Households Below Average Income

Table Options | None | Percentages | Row | Relative Standard Error | Column | Total

Economic Status of Adults in the Family | Zero Suppression | per cent of median net household income (BHC) in latest prices

Filters:

Wafers:

Financial Year	2019-20		
60 per cent of median net household income (BHC) in latest prices	Not in low income (at or above threshold)	In low income (below threshold)	Total
<< Economic Status of Adults in the Family			
One or more full-time self-employed	13.11%	20.14%	14.02%
Single/couple with all in full-time work	45.39%	13.54%	41.27%
Couple with one full-time work and one part-time work	18.63%	10.63%	17.60%
Couple with one full-time work and one not working	11.32%	23.23%	12.66%
No one in full-time work with one or more in part-time work	11.55%	32.46%	14.26%
Total	100.00%	100.00%	100.00%

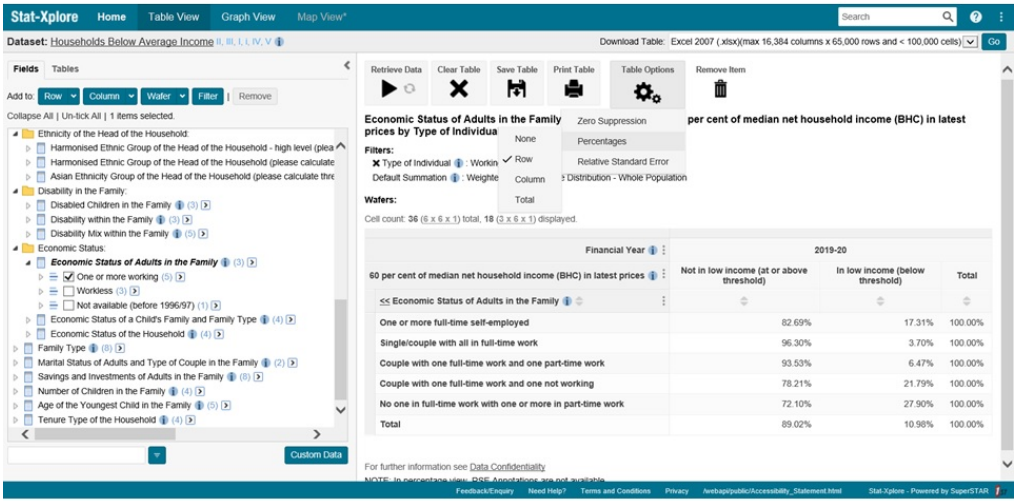
For further information see Data Confidentiality

NOTE: In percentage view, RSE Annotations are not available.

14.6. For risk of in-work low income:

- Select ‘Table Options’.
- Select ‘Percentages’.
- Tick ‘Row’.

Figure 26 - Worked Example 1 Risk Table

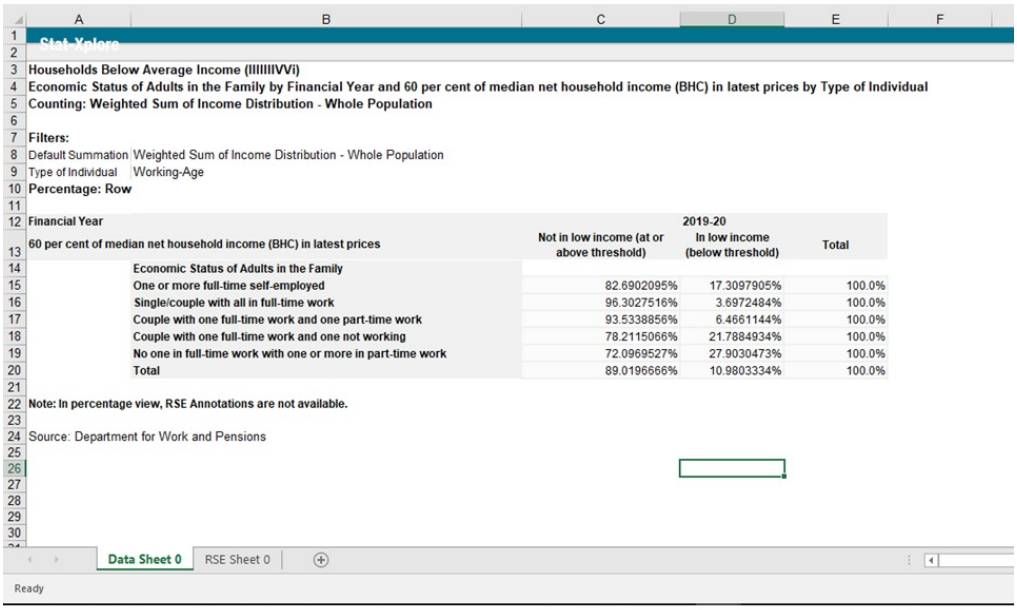


Note that both thresholds (below and at/above) are needed for Stat-Xplore to calculate risk percentages.

Footnotes cannot currently be presented with percentage tables.

14.7. Click on the ‘Go’ button in the top right corner and the table is exported to Excel:

Figure 27 - Worked Example 1 Excel Output



Households Below Average Income (IIIIIIIVVi)
Economic Status of Adults in the Family by Financial Year and 60 per cent of median net household income (BHC) in latest prices by Type of Individual
Counting: Weighted Sum of Income Distribution - Whole Population

Filters:
Default Summation: Weighted Sum of Income Distribution - Whole Population
Type of Individual: Working-Age
Percentage: Row

Financial Year		2019-20		
60 per cent of median net household income (BHC) in latest prices		Not in low income (at or above threshold)	In low income (below threshold)	Total
Economic Status of Adults in the Family				
	One or more full-time self-employed	82.6902095%	17.3097905%	100.0%
	Single/couple with all in full-time work	96.3027516%	3.6972484%	100.0%
	Couple with one full-time work and one part-time work	93.5338856%	6.4661144%	100.0%
	Couple with one full-time work and one not working	78.2115066%	21.7884934%	100.0%
	No one in full-time work with one or more in part-time work	72.0969527%	27.9030473%	100.0%
	Total	89.0196666%	10.9803334%	100.0%

Note: In percentage view, RSE Annotations are not available.

Source: Department for Work and Pensions

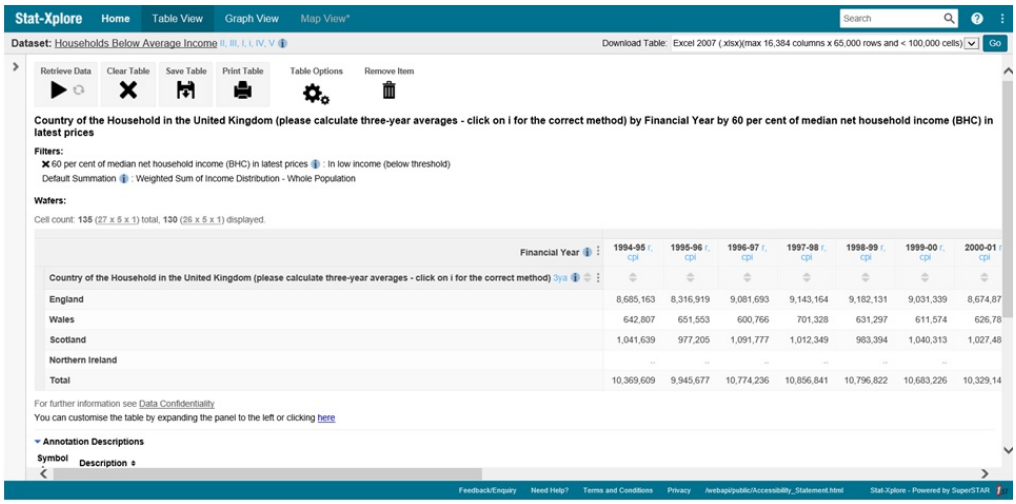
Please add “Source: HBAI Stat-Xplore” to any analysis shared or published.

15. Worked Example 2: Low Income by Country/Region

15.1. Create the Table:

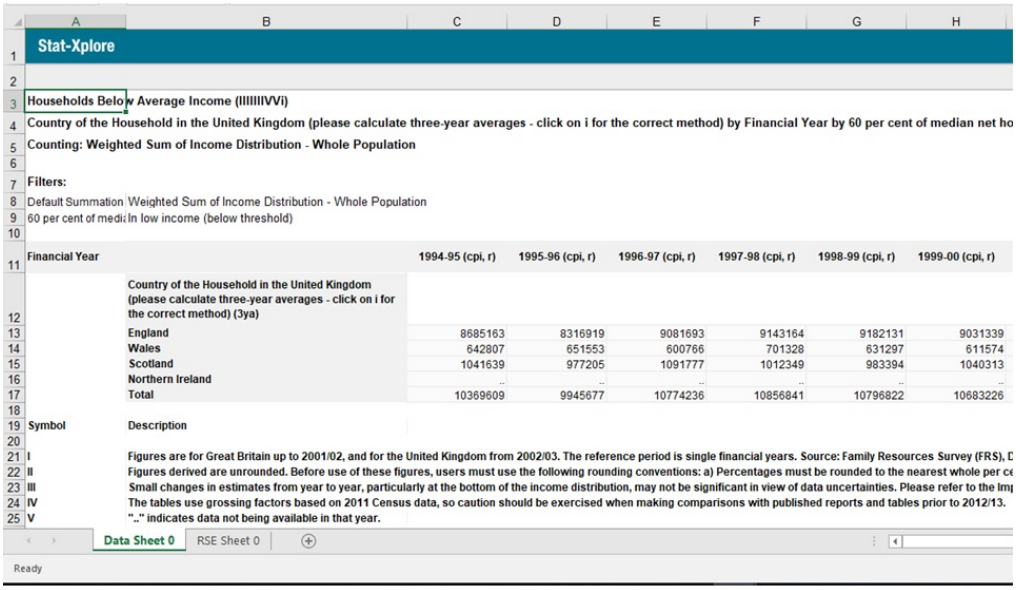
- Select ‘Net Household Income Threshold – Before Housing Costs’.
- Select ‘60 per cent of median net household income (BHC) in latest prices’ and tick the ‘In Low Income (Below Threshold)’ category.
- Click on ‘Filter’.
- Click on ‘Financial Year’ and drag to column.
- Click on the three dots next to ‘Financial Year’ and untick total.
- Click on ‘Country/Region of the Household in the United Kingdom: Country of the Household in the United Kingdom‘ and drag to row.
- Click on ‘Retrieve Data’.

Figure 28 - Worked Example 2 Table Creation



15.2. Click on the ‘Go’ button in the top right corner and the table is exported to Excel:

Figure 29 - Worked Example 2 Excel Output

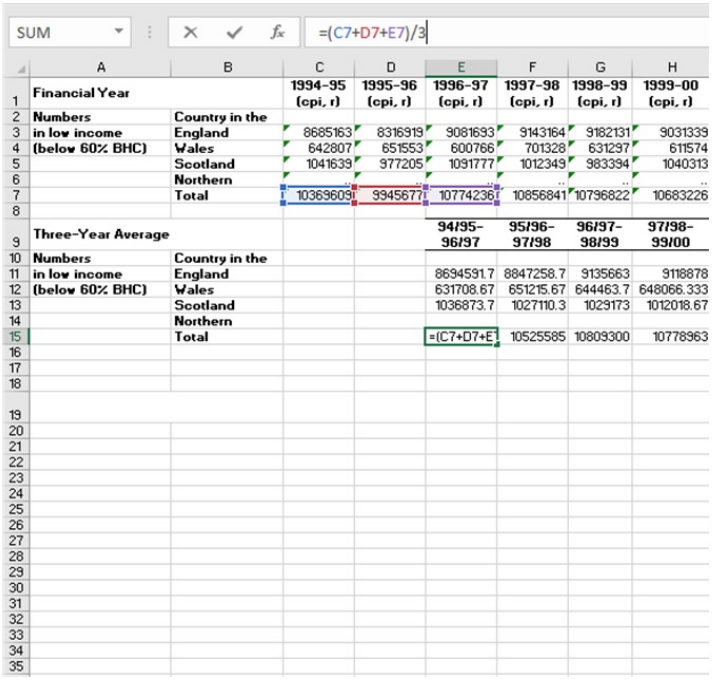


15.3. Calculate three-year averages for numbers:

- Create a new table and link to the outputs.
- Create a three-year average table below it.

- Use the formula Year 1 to Year 3 estimate = (Year 1 estimate + Year 2 estimate + Year 3 estimate)/3.

Figure 30 - Worked Example 2 Calculating a Three-Year Average for Numbers



	A	B	C	D	E	F	G	H
1	Financial Year		1994-95 (cpi, r)	1995-96 (cpi, r)	1996-97 (cpi, r)	1997-98 (cpi, r)	1998-99 (cpi, r)	1999-00 (cpi, r)
2	Numbers	Country in the						
3	in low income	England	8685163	8316919	9081693	9143164	9182131	9031339
4	(below 60% BHC)	Wales	642807	651553	600766	701328	631297	611574
5		Scotland	1041639	977205	1091777	1012349	983394	1040313
6		Northern	..	..	..	..	..	..
7		Total	10369609	9945677	10774236	10856841	10796822	10683226
8								
9	Three-Year Average				94/95-96/97	95/96-97/98	96/97-98/99	97/98-99/00
10	Numbers	Country in the						
11	in low income	England			8694591.7	8847258.7	9135663	9118878
12	(below 60% BHC)	Wales			631708.67	651215.67	644463.7	648066.333
13		Scotland			1036873.7	1027110.3	1029173	1012018.67
14		Northern						
15		Total			=(C7+D7+E7	10525585	10809300	10778963
16								
17								
18								
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35								

For the rest of the times-series, calculate a three-year rolling average i.e. FYE 1995 to FYE 1997, FYE 1996 to FYE 1998, FYE 1997 to FYE 1999 and so on.

15.4. Calculate three year averages for percentages

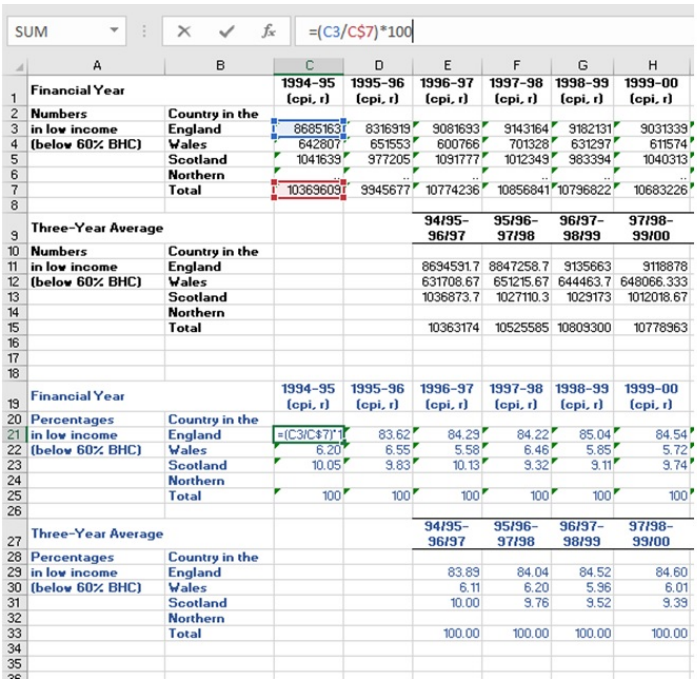
It is strongly recommended that a numbers table is outputted and percentages calculated by the user in Excel before calculating three-year average percentage estimates.

Alternatively, the user will need to output a percentage table separately for each year.

To calculate three-year averages for percentages:

- Create a percentages table below the numbers table.
- Calculate the percentage for each cell.

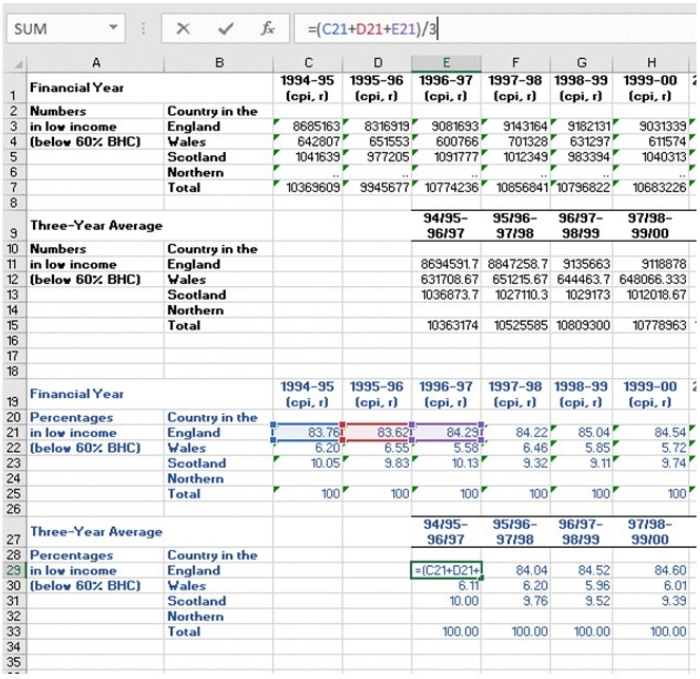
Figure 31 - Worked Example 2 Calculating a Three-Year Average for Percentages Set-Up



	A	B	C	D	E	F	G	H
1	Financial Year		1994–95 (cpi, r)	1995–96 (cpi, r)	1996–97 (cpi, r)	1997–98 (cpi, r)	1998–99 (cpi, r)	1999–00 (cpi, r)
2	Numbers	Country in the						
3	in low income	England	8685163	8316919	9081693	9143164	9182131	9031339
4	(below 60% BHC)	Wales	642807	651553	600766	701328	631297	611574
5		Scotland	1041639	977205	1091777	1012349	983394	1040313
6		Northern	..	..	..	..	..	..
7		Total	10369609	9945677	10774236	10856841	10796822	10683226
8								
9	Three-Year Average				94/95–96/97	95/96–97/98	96/97–98/99	97/98–99/00
10	Numbers	Country in the						
11	in low income	England			8694591.7	8847258.7	9135663	9118878
12	(below 60% BHC)	Wales			631708.67	651215.67	644463.7	648066.333
13		Scotland			1036873.7	1027110.3	1029173	1012018.67
14		Northern						
15		Total			10363174	10525585	10809300	10778963
16								
17								
18								
19	Financial Year		1994–95 (cpi, r)	1995–96 (cpi, r)	1996–97 (cpi, r)	1997–98 (cpi, r)	1998–99 (cpi, r)	1999–00 (cpi, r)
20	Percentages	Country in the						
21	in low income	England	=(C3/C$7)*1	83.62	84.29	84.22	85.04	84.54
22	(below 60% BHC)	Wales	6.20	6.55	5.58	6.46	5.85	5.72
23		Scotland	10.05	9.83	10.13	9.32	9.11	9.74
24		Northern						
25		Total	100	100	100	100	100	100
26								
27	Three-Year Average				94/95–96/97	95/96–97/98	96/97–98/99	97/98–99/00
28	Percentages	Country in the						
29	in low income	England			83.89	84.04	84.52	84.60
30	(below 60% BHC)	Wales			6.11	6.20	5.96	6.01
31		Scotland			10.00	9.76	9.52	9.39
32		Northern						
33		Total			100.00	100.00	100.00	100.00
34								
35								

- Create a three-year average table below it.
- Use the formula Year 1 to Year 3 percentage estimate = (Year 1 percentage estimate + Year 2 number percentage + Year 3 percentage estimate)/3.

Figure 32 - Worked Example 2 Calculating a Three-Year Average for Percentages



	A	B	C	D	E	F	G	H
1	Financial Year		1994–95 (cpi, r)	1995–96 (cpi, r)	1996–97 (cpi, r)	1997–98 (cpi, r)	1998–99 (cpi, r)	1999–00 (cpi, r)
2	Numbers	Country in the						
3	in low income	England	8685163	8316919	9081693	9143164	9182131	9031339
4	(below 60% BHC)	Wales	642807	651553	600766	701328	631297	611574
5		Scotland	1041639	977205	1091777	1012349	983394	1040313
6		Northern	..	..	..	..	..	..
7		Total	10369609	9945677	10774236	10856841	10796822	10683226
8								
9	Three-Year Average				94/95–96/97	95/96–97/98	96/97–98/99	97/98–99/00
10	Numbers	Country in the						
11	in low income	England			8694591.7	8847258.7	9135663	9118878
12	(below 60% BHC)	Wales			631708.67	651215.67	644463.7	648066.333
13		Scotland			1036873.7	1027110.3	1029173	1012018.67
14		Northern						
15		Total			10363174	10525585	10809300	10778963
16								
17								
18								
19	Financial Year		1994–95 (cpi, r)	1995–96 (cpi, r)	1996–97 (cpi, r)	1997–98 (cpi, r)	1998–99 (cpi, r)	1999–00 (cpi, r)
20	Percentages	Country in the						
21	in low income	England	83.76	83.62	84.29	84.22	85.04	84.54
22	(below 60% BHC)	Wales	6.20	6.55	5.58	6.46	5.85	5.72
23		Scotland	10.05	9.83	10.13	9.32	9.11	9.74
24		Northern						
25		Total	100	100	100	100	100	100
26								
27	Three-Year Average				94/95–96/97	95/96–97/98	96/97–98/99	97/98–99/00
28	Percentages	Country in the						
29	in low income	England			=(C21+D21+	84.04	84.52	84.60
30	(below 60% BHC)	Wales			6.11	6.20	5.96	6.01
31		Scotland			10.00	9.76	9.52	9.39
32		Northern						
33		Total			100.00	100.00	100.00	100.00
34								
35								

	For the rest of the times-series, calculate a three-year rolling average i.e. FYE 1995 to FYE 1997, FYE 1996 to FYE 1998, FYE 1997 to FYE 1999 and so on. Please add “Source: HBAI Stat-Xplore” to any analysis shared or published. Please email the HBAI team with comments and suggestions.